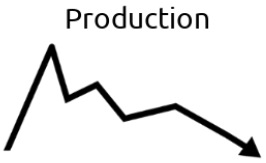
Training of the staff of an organization

Problem Description

In a work environment, training aims to ensure that employees produce or provide services with better quality. The problem is that it takes a lot of time to be effective, and it also consumes financial resources. Additionally, employee turnover is an adverse factor and requires training to be carried out on a constant basis.

Disadvantages

- Need for a classroom for classes
- Training during working hours
- Hiring an instructor
- Commuting time
- Duration of the training
- Learning issues
- Travel expenses
- Excessive information



Contradictions

Technical Contradiction

If the staff is trained, they will provide services with better quality, but they will not be working during the time the training takes place.

Features:

+ Manufacturing precision
− Productivity

Technical contradiction

When we improve something, and that improvement creates a problem for us, we are dealing with a technical contradiction.

- If the speed of the car is increased, you can reach a destination faster, but the journey becomes more unsafe. Our improving is in the "Time waste" and the worsening is in "Safety". These improvements and worses are known as "features".

Physical Contradiction

Training should be extensive to ensure the workers' learning, but it should be short to reduce its time demand.

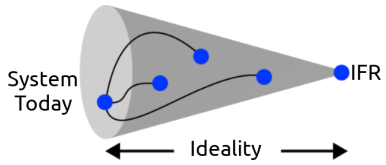
Physical contradiction

What we want to improve has two opposing properties, and this is known as a physical contradiction, which can be the root of the technical contradiction.

- The water must be cold to avoid burning us, and hot to remove dirt more easily.

Ideal Final Result

Add the results of training to the services provided by the workers, without increasing its duration.



Ideal Final Result

The ideal final result (IFR) should be formulated as a dream. It is the improvement made that brings one or more benefits, without any kind of harm or costs (anything that worsens).

$$\text{Ideality} = \frac{\Sigma \text{ Benefits}}{\Sigma \text{ Cost} + \Sigma \text{ Harm}}$$

"Ideality" is a measure that helps us determine how close we are to our IFR.

Workers to carry out the billing of services and products

Problem Description

The owner of a business must hire staff to be in charge of their establishment. The problem is the "petty theft" that employees might commit. Imagine an ice cream shop, a bakery, etc.

Disadvantages

- Labor costs
- Poor staff selection
- Lack of trust
- Lack of commitment
- Need for training

Contradictions

Technical Contradiction

If a worker is designated to handle the billing of services, then the business owner will have time to focus on other activities, but the worker may not be honest.

Features:

+ Ease of operation
− External harm affects the object

Technical contradiction

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- If the speed of the car is increased, you can reach a destination faster, but the journey becomes more unsafe. Our improving is in the "Time waste" and the worsening is in "Safety". These improvements and worses are known as "features".

Physical Contradiction

The worker should be present carrying out tasks at the establishment, but they should not be there to prevent the loss of money.

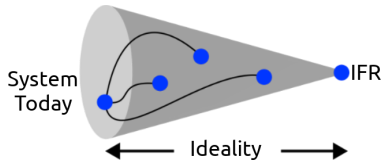
Physical contradiction

What we want to improve has two opposing properties, and this is known as a physical contradiction, which can be the root of the technical contradiction.

- The water must be cold to avoid burning us, and hot to remove dirt more easily.

Ideal Final Result

To handle the billing of services without the possibility of losing money.



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Learn new things to apply them

Problem Description

Learning new things can give us the ability to apply more knowledge to our daily tasks. However, the study required for this consumes time, and sometimes we don't have enough of it.

Disadvantages

- Time investment
- Obsolescence of knowledge
- Money investment
- Low productivity
- Busy schedule

Contradictions

Technical Contradiction

If a new thing is studied, then more knowledge will be gained that can be applied, but time will be spent that could be used for other activities.

Features:

+ Adaptability or versatility
− Productivity

Technical contradiction

When we improve something, and that improvement creates a problem for us, we are dealing with a technical contradiction.

- If the speed of the car is increased, you can reach a destination faster, but the journey becomes more unsafe. Our improving is in the "Time waste" and the worsening is in "Safety". These improvements and worses are known as "features".

Physical Contradiction

A significant amount of time should be used to study many new things, but not too many things should be studied to avoid consuming too much time.

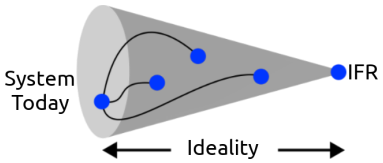
Physical contradiction

What we want to improve has two opposing properties, and this is known as a physical contradiction, which can be the root of the technical contradiction.

- The water must be cold to avoid burning us, and hot to remove dirt more easily.

Ideal Final Result

Learn new things constantly and apply them, but without spending time studying them.



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Water consumption for various activities

Problem Description

The daily use of water is essential for many tasks (personal hygiene, washing clothes, etc.), however, there is a shortage in communities. People don't even have water to drink.

Disadvantages

- Scarcity
- Wastewater treatment
- Massive side effects

Contradictions

Technical Contradiction

If water is consumed, it could be used for personal hygiene and house cleaning, but it would become scarce for drinking.

Features:

+ Ease of repair
− Loss of substance

> **Technical contradiction**
>
> When we improve something, and that improvement creates a problem for us, we are dealing with a technical contradiction.
>
> - If the speed of the car is increased, you can reach a destination faster, but the journey becomes more unsafe. Our improving is in the "Time waste" and the worsening is in "Safety". These improvements and worses are known as "features".

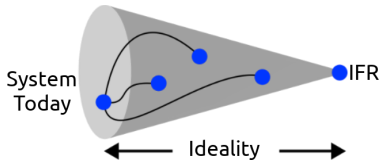
Physical Contradiction

Water should be used for personal hygiene, but it should not be consumed unnecessarily in order to conserve it.

> **Physical contradiction**
>
> What we want to improve has two opposing properties, and this is known as a physical contradiction, which can be the root of the technical contradiction.
>
> - The water must be cold to avoid burning us, and hot to remove dirt more easily.

Ideal Final Result

Being able to perform personal hygiene and clean the house without the need for water.



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Saving money for personal projects

Problem Description

Achieving goals that require funding (starting a business, paying for a house, etc.) can be accomplished through saving money. However, this saving involves cutting back on things we consider necessary.

Disadvantages

- Saving capacity
- Time required
- Unforeseen events

Contradictions

Technical Contradiction

If money is saved, it could be used to start a business, but in the meantime, essential services and/or products needed for living would not be paid for.

Features:

+ Quantity of substance/the matter
− Ease of operation

Technical contradiction

When we improve something, and that improvement creates a problem for us, we are dealing with a technical contradiction.

- If the speed of the car is increased, you can reach a destination faster, but the journey becomes more unsafe. Our improving is in the "Time waste" and the worsening is in "Safety". These improvements and worses are known as "features".

Physical Contradiction

One should save a significant amount of money to finance personal goals, but not save too much money to the point where it could be used immediately.

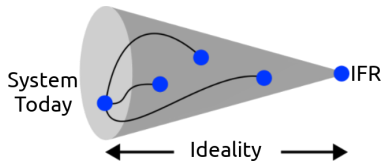
Physical contradiction

What we want to improve has two opposing properties, and this is known as a physical contradiction, which can be the root of the technical contradiction.

- The water must be cold to avoid burning us, and hot to remove dirt more easily.

Ideal Final Result

Having money available to use for personal projects without the need to save.



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